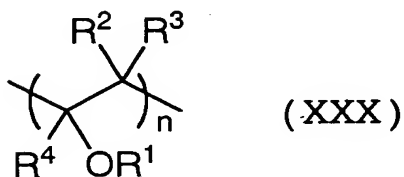


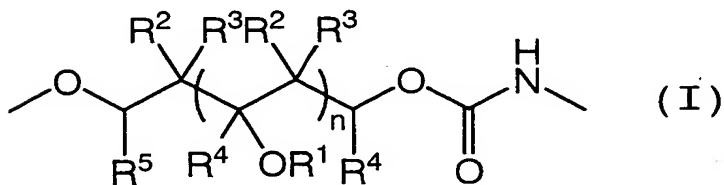
# Claims

1. A polyurethane having, in the molecule, a structural unit represented by formula (XXX):



(wherein, n represents an integer of 2 to 1000, R<sup>1</sup> represents substituted or unsubstituted lower alkyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted aryl, or substituted or unsubstituted aralkyl, and R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup>, which are the same or different, each represent a hydrogen atom, substituted or unsubstituted lower alkyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted aryl, or substituted or unsubstituted aralkyl, and R<sup>1</sup>s, R<sup>2</sup>s, R<sup>3</sup>s, and R<sup>4</sup>s, when they are each present two or more in number, may be respectively the same or different).

2. A polyurethane having, in the molecule, a structural unit represented by formula (I):



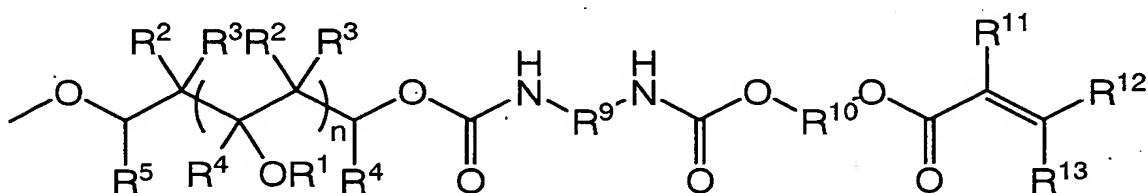
(wherein n, R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> respectively have the same meanings as defined above, R<sup>5</sup> represents a hydrogen atom, substituted or unsubstituted lower alkyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted aryl, or substituted

or unsubstituted aralkyl).

3. The polyurethane according to claim 1 or 2, wherein the weight-average molecular weight thereof is 30000 to 1000000.

4. An urethane acrylate having, in the molecule, the structural unit represented by formula (XXX) described in claim 1.

5. An urethane acrylate having, in the molecule, a structural unit represented by formula (II):



(II)

(wherein  $n$ ,  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$  and  $R^5$  respectively have the same meanings as defined above,  $R^9$  represents a residue derived from a polyisocyanate compound,  $R^{10}$  represents substituted or unsubstituted lower alkylene, substituted or unsubstituted cycloalkylene, or substituted or unsubstituted arylene, and  $R^{11}$ ,  $R^{12}$  and  $R^{13}$ , which are the same or different, each represent a hydrogen atom, substituted or unsubstituted lower alkyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted aryl, or a substituted or unsubstituted aralkyl).

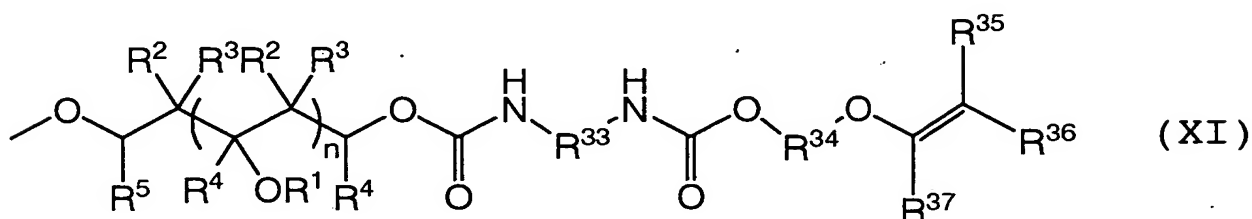
6. The urethane acrylate according to claim 4 or 5, wherein the number-average molecular weight thereof is 200 to 10000.

7. A composition comprising the urethane acrylate according to any of claims 4 to 6, and a radical photo-, or thermal

polymerization initiator.

8. An urethane alkenyl ether having, in the molecule, the structural unit represented by formula (XXX) described in claim 1.

9. An urethane alkenyl ether having, in the molecule, a structural unit represented by formula (XI):



(wherein  $n$ ,  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$ , and  $R^5$  respectively have the same meanings as defined above,  $R^{33}$  represents a residue derived from a polyisocyanate compound,  $R^{34}$  represent substituted or unsubstituted lower alkylene, substituted or unsubstituted cycloalkylene, or substituted or unsubstituted arylene, and  $R^{35}$ ,  $R^{36}$  and  $R^{37}$ , which are the same or different, each represent a hydrogen atom, substituted or unsubstituted lower alkyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted aryl or substituted or unsubstituted aralkyl).

10. The urethane alkenyl ether according to claim 8 or 9, wherein the number-average molecular weight thereof is 200 to 10000.

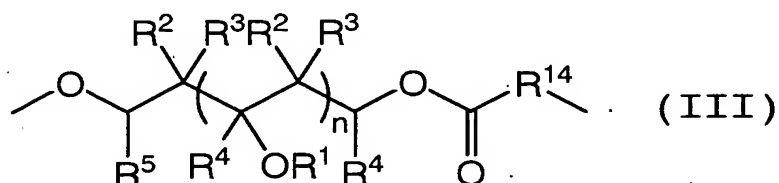
11. A composition comprising the urethane alkenyl ether according to any of claims 8 to 10, and a polymerization initiator

generating an acid through heating or light irradiation.

12. A composition comprising the urethane alkenyl ether according to any of claims 8 to 10, and a compound having a maleimido group.

13. A polyester derived from a polyol, said polyol having, in the molecule, the structural unit represented by formula (XXX) described in claim 1 and having hydroxyl groups at its 2, 3, or 4 ends.

14. A polyester having, in the molecule, a structural unit represented by formula (III):

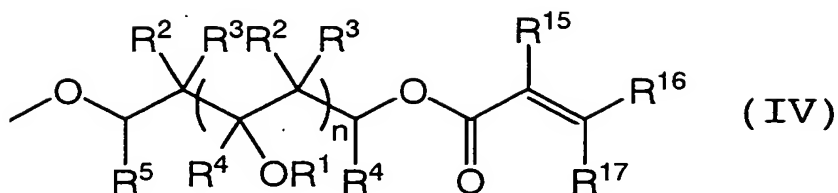


(wherein  $n$ ,  $\text{R}^1$ ,  $\text{R}^2$ ,  $\text{R}^3$ ,  $\text{R}^4$  and  $\text{R}^5$  respectively have the same meanings as defined above, and  $\text{R}^{14}$  represents substituted or unsubstituted lower alkylene, substituted or unsubstituted cycloalkylene, or substituted or unsubstituted arylene).

15. The polyester according to claim 13 or 14, wherein the weight-average molecular weight thereof is 30000 to 1000000.

16. An ester acrylate derived from a polyol, said polyol having, in the molecule the structural unit represented by formula (XXX) described in claim 1 and having hydroxyl groups at its 2, 3, or 4 ends.

17. An ester acrylate having, in the molecule, a structural unit represented by formula (IV):



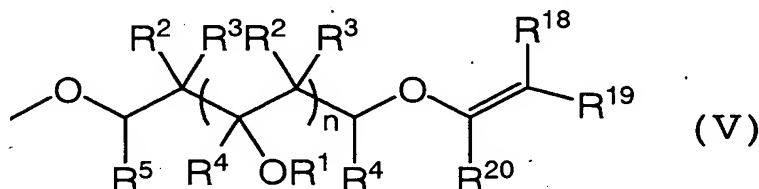
(wherein,  $n$ ,  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$  and  $R^5$  respectively have the same meanings as defined above, and  $R^{15}$ ,  $R^{16}$ , and  $R^{17}$ , which are the same or different, each represent a hydrogen atom, substituted or unsubstituted lower alkyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted aryl, or substituted or unsubstituted aralkyl).

18. The ester acrylate according to claim 16 or 17, wherein the number-average molecular weight thereof is 200 to 10000.

19. A composition comprising the ester acrylate according to any of claims 16 to 18, and a radical photo-, or thermal polymerization initiator.

20. An alkenyl ether having, in the molecule, the structural unit represented by formula (XXX) described in claim 1.

21. An alkenyl ether having, in the molecule, a structural unit represented by formula (V):



(wherein,  $n$ ,  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$  and  $R^5$  respectively have the same meanings as defined above,  $R^{18}$ ,  $R^{19}$ , and  $R^{20}$ , which are the same or different, each represent a hydrogen atom, substituted or unsubstituted lower alkyl, substituted or unsubstituted

cycloalkyl, substituted or unsubstituted aryl, or substituted or unsubstituted aralkyl).

22. The alkenyl ether according to claim 20 or 21, wherein the number-average molecular weight thereof is 200 to 10000.

23. A composition comprising the alkenyl ether according to any of claims 20 to 22 and a polymerization initiator generating an acid through heating or light irradiation.

24. A composition comprising the alkenyl ether according to any of claims 20 to 22 and a compound having a maleimido group.